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PART II:

ENVIRONMENTAL PROTECTION AGENCY

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LIGHT DUTY VEHICLES AND LIGHT DUTY TRUCKS

Advanced Notice of Proposed Rulemaking Regarding Emission Control Warranty

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 85]

[FRL 630-2]

EMISSION CONTROL PRODUCTION WARRANTY

Advance Notice of Proposed Rulemaking

Advance notice is hereby given that the Environmental Protection Agency (EPA) is considering the addtion of a new Subpart U to Part 85 of Title 40 of the Code of Federal Regulations, as generally discussed below.

I. SUMMARY

The Agency is considering the development and promulgation of regulations to provide general clarification concerning the coverage of Section 207(a) of the Clean Air Act (the emission control production warranty) for light duty vehicles and light duty trucks. In EPA's view, this action is necessary because the Section 207(a) warranty has not developed into an effective remedy, despite its presence since the 1972 model year. This situation exists because it is nearly impossible, as a practical matter, for consumers to establish that a particular failure is a defect resulting in the vehicle exceeding Federal emissions standards, as Section 207(a) has generally been interpreted to require. Additionally, consumers have received little guidance as to the scope of coverage of the warranty from the Agency, from vehicle manufacturers, or from other sources. The guidance which has been provided by vehicle manufacturers has often been nonuniform from manufacturer to manufacturer, and limited in scope.

This notice outlines a number of major strategy options and some additional strategies which are being considered by the Agency for the upcoming section 207 (a) program. Comments are requested on all aspects of these strategies.

The major options are:

1. Continue present course of action. Under this option, almost the entire burden of justifying contested claims would remain on the consumer. That is, the consumer would continue to have the burden of demonstrating that a particular failure results in emissions which exceed Federal standards. To this point, this has not resulted in an effective remedy for consumers. The Agency would still review owner's manuals to ensure that the section 207(a) warranty is included, but would not require any detailed listing of the coverage of the warranty.

2. Develop and promulgate a list of emissions-related components. Under this option, consumers would still have the burden of justifying claims, but would have less difficulty, since there would be general agreement regarding components and their importance to emission performance.

3. Develop and promulgate a list of failures presumed to be covered by the warranty. Under this option, a listed failure would be presumed to result in emissions above standards, and would thus be covered by the warranty unless the failure was not attributable to the manufacturer. This approach would provide a solid technical foundation for most section 207(a) claims, and therefore remove much of the burden of proof presently facing consumers regarding contested section 207(a) claims.

Other elements being considered by the Agency include: Reporting requirements, a log-book format for maintenance instructions, a requirement that consumers be notified of claims not honored, and the question of whether any policy adopted should function retroactively (back to the 1972 model year).

II. BACKGROUND—GENERAL

Section 202 of the Clean Air Act requires the Administrator of EPA to prescribe regulations, including emissions standards, for new vehicles and engines. Regulations have been prescribed and apply to new vehicles produced since the 1968 model year. Since the 1972 model year, the Act has required or authorized programs to compel the manufacturers to build vehicles that comply with the regulations during three distinct phases in the life of a vehicle or engine—the certification phase, the production or assembly line phase, and the in-use phase throughout the "useful life" (as defined in section 202(d) of the Act).

Pursuant to section 206(a)(1), certification of vehicles and engines is conducted on the basis of data generated from testing of prototype vehicles both by the manufacturer and by EPA, and on the basis of analysis of other data submitted by the manufacturer or generated by EPA to determine whether the vehicles or engines proposed to be introduced into commerce are designed so as to be capable of meeting applicable emission standards for their useful lives. Section 206 (b)(1) contemplates production or assembly line testing to verify that manufacturers can mass produce vehicles that comply with the section 202 regulations. The Agency has recently promulgated regulations providing for selective enforcement audit testing on the assembly line. Under this approach, a statistically determined sample of vehicles can be tested using the Federal Test Procedure. (See: 41 FR 31472, Wednesday, July 28, 1976.) Finally, section 207 of the Act attempts to assure in-use compliance through three major provisions—the section 207(a) "production" warranty provision, the section 207(b) "performance" warranty provision, and the section 207(c)(1) "recall" provision.

The section 207(c)(1) recall provision is applicable when "a substantial number of any class or category of vehicles or engines, although properly maintained and used, do not conform to the regulations prescribed under section 202, when in actual use throughout their useful life." Final regulations dealing with recall have been promulgated. (See: 39 FR 44370, Monday, December 23, 1974.)

The section 207(b) "performance warranty" will not take effect until the Administrator promulgates regulations establishing a test capable of identifying noncomplying vehicles and engines in use. Such regulations have not been promulgated to date because of the technical difficulty in identifying an acceptable test (the so-called "short test") which is "reasonably capable of being correlated" with the FTP, as section 207(b) requires. The 1979 model year is probably the earliest model year to which section 207(b) could now apply.

An increasing amount of data shows that many in-use vehicles produced since the 1972 model year exceed Federal emissions standards, often by a large amount. (See, e.g., "Automobile Exhaust Emission Surveillance—Analysis of the FY 72 Program," EPA-460/2-74-001 (Feb., 1974) which found that 58 percent of the 1972 model year vehicles tested exceeded at least one of the two Federal emissions standards then in existence, and, "Automobile Exhaust Emission Surveillance—Analysis of the FY 73 Program", EPA-460/3-75-007 (July, 1975) which found that 86 percent of the 1973 and 55 percent of the 1974 model year vehicles tested in four representative cities exceeded at least one of the three Federal emission standards then in existence.) In some cases the blame may lie with owners failing to adequately maintain their vehicles. State and local inspection-maintenance programs, which are part of the transportation control plans required in many urban areas by Title I of the Clean Air Act, will encourage better owner care of vehicles in the next few years. However, in other cases, defective design, workmanship, or use of inadequate materials by the manufacturer may cause this noncompliance, and, as Congress intended, the manufacturer should be required to remedy defective emission control components. Although the recall program can accomplish this in some cases, it is not an available remedy for many vehicles. Both the "substantial number" requirement in the Clean Air Act and the time, expense, and difficulty of gathering data sufficient to support a recall will often preclude this remedy. In theory, the warranty provisions—section 207(a) and section 207 (b)—could take up this slack. However, as discussed above, the section 207(b) performance warranty cannot be implemented for some time to come. The Agency is therefore considering alternative courses of action intended to make section 207(a) function effectively.

III. BACKGROUND—SECTION 207(a) PRODUCTION WARRANTY

The section 207(a) production warranty provision provides that—

> Effective with respect to vehicles and engines manufactured in model years beginning more than 60 days after the date of the enactment of the Clean Air Act Amendments of 1970, the manufacturer of each new motor vehicle and new motor vehicle engine shall warrant to the ultimate purchaser and each subsequent purchaser that such vehicle or engine is (1) designed, built and equipped so as to conform at the time of sale with applicable regulations under section 202, and (2) free from defects in materials and workmanship which cause such vehicle or engine to fail to conform with

applicable regulations for its useful life (as determined under section 202(d)).

Although section 207(a) extends back to the 1972 model year, it appears that relatively few claims have been made under it to date. The Agency believes that this is because of the difficulty that a vehicle owner has in proving that a particular failure results from a defect causing the vehicle to be in noncompliance with the section 202 regulations (including emissions standards), and because vehicle owners, manufacturers, dealers, and other persons do not know what is generally covered by the warranty.

Commencing with the first model year to which section 207(a) applies—1972—the Agency has interpreted this provision and section 203(a)(4) of the Act to require manufacturers to provide written warranties to the ultimate purchaser. This requirement has been communicated to the manufacturers in Advisory Circulars No. 15 and No. 15A, published by the Agency's Office of Mobile Source Air Pollution Control, and through individual contacts with the manufacturers by the Office of Enforcement. Advisory Circulars No. 15 and No. 15A have recommended a format for the written warranty. They also state that the Agency will review the manufacturer's owner's manuals to ensure that the warranty is included and that the language used is acceptable.

The Agency believes that Congress intended section 207(a) to apply to defects attributable to the manufacturer that result in noncompliance with the section 202 regulations, whether at the time of initial retail sale or at any time during the useful life of the vehicle or engine. Section 207(a)(1) applies to those nonconformities which are present at the time of sale which result from the failure of a manufacturer to properly design, build, and equip his production vehicles. The period of time following initial sale during which this clause is operative is not explicitly stated. However, since the section 202 regulations are referred to in section 207(a)(1), including section 202(d) regarding useful life, it is the Agency's position that, at a minimum, this period is equal to the useful life of the vehicle or engine for which a claim is made. A basis for a valid claim under section 207(a)(1) would thus include the failure of a manufacturer to install an element of the emissions control system such as the carbon canister, and the claim could be successfully brought even if the missing component was not discovered until long after the initial sale.

In the above example and in most similar such cases, the Agency feels that the absence of a critical component related to emission control would establish prima facie that section 202 standards were being exceeded, and thus satisfy the owner's burden in this regard. Unless the manufacturer could subsequently show that the standards were nevertheless being met, the section 207(a)(1) claim would have to be honored. Furthermore, section 207(a)(1) could potentially be applicable in some cases where no specific defect was identified; in essence becoming a type of performance warranty. If a vehicle or engine were to be tested shortly after purchase and found to be exceeeding section 202 standards, the Agency believes that this could be sufficient to form the basis of a section 207(a)(1) claim without an identification of the exact cause of the failure. Of course, the manufacturer could escape liability if he could show that the degradation occurred after the sale (in which case section 207(b) might apply), but absent this, section 207(a)(1) would be considered breached.

The second clause, section 207(a)(2), applies to all defects in materials and workmanship which manifest themselves at any point during the useful life, whether or not they also manifested themselves at the time of sale, and which result in noncompliance with the regulations. An example of a failure clearly covered by this clause would be the failure of the catalyst material in a catalytic converter at 20,000 miles despite proper maintenance and use, including the use of unleaded gasoline.

The "useful life" is defined in section 202(d) of the Act and in regulations promulgated pursuant to the Act. For all light duty vehicles the useful life is 5 years or 50,000 miles, whichever comes first, and from the time of initial retail sale.

Section 207(a) does not contain any language requiring proper maintenance and use of the vehicle or engine to qualify for warranty coverage. Nor should this requirement be implicitly read into section 207(a) since, except for components that were not replaced prior to expiration of their normal replacement interval, the defects to which section 207(a) applies have no relation to "proper maintenance or use." The statutory language was drafted to parallel the standard new car defects warranty, and the defects covered are specified as those which are the result of improper design or manufacturing processes; not those that are the result of subsequent faulty maintenance or failure to maintain. However, certain failures which could be covered by the warranty might actually be caused by owner abuse or improper maintenance. Therefore, improper maintenance may in some casees be a valid defense to a warranty claim if it can be shown to have caused the failure in question.

One difficult issue requiring resolution under the section 207(a) warranty is the period of coverage for components that do not normally last for the useful life of the vehicle or engine. The Agency uses the term "normal replacement interval" in reference to such a component to mean that period specified in the manufacturer's maintenance instructions, required by section 207(c)(3) of the Act, between the initial sale of a vehicle and the first replacement of the component. For example, if a manufacturer requires replacement of the positive crankcase ventilation (pcv) valve at 12,500 miles, this would constitute the normal replacement interval for the pcv valve. (If no mandatory replacement interval is specified for a component, the normal replacement interval is equal to or greater than the useful life of the vehicle.)

Although the normal replacement interval concept is not explicitly articulated in the Act or its legislative history, it appears necessary to reconcile two potentially divergent views expressed by Congress. On one hand, the 5 year/50,000 mile warranty and the recall provisions can be interpreted to hold a manufacturer liable for defects which cause a nonconformity at any point during the useful life without regard to a shorter life span for particular components. However, provisions dealing with proper maintenance and use, especially the section 207(c)(3) provisions requiring the manufacturer to provide instructions to the purchaser which are both "reasonable and necessary to assure the proper functioning of emissions control devices and systems," indicate that Congress did not intend to alter substantially the traditional burden of the purchaser to take care of his vehicle periodically, at his expense. The "normal replacement interval" concept takes the maintenance instructions into account in interpreting section 207(a).

At the present time, the Agency's position is that failures occurring in a component after the expiration of the normal replacement interval for that component are not covered by the section 207(a) warranty. Such components should be replaced by the car owner at approximately the specified interval.

Maintenance instructions which do not specify mandatory replacement constitute an especially difficult problem under section 207(a). For example, if the instructions for a certain component read "test and replace if necessary" or "inspect and replace if necessary," the normal replacement interval is not fully defined. Therefore, the question arises whether a failure in such a component should still be covered by the section 207(a) warranty after an optional maintenance point of this type has been passed. The Agency has taken the position that such instructions cannot act as a bar to a recall or a warranty action. This follows from the fact they do not generally prevent emission-related failures but serve to identify such failures after they occur. Specific comments in this area are requested.

Under any section 207(a) policy ultimately adopted, the Agency will continue to review the manufacturers' maintenance instructions to ensure that they are "reasonable and necessary," especially as they define the normal replacement interval of various components. The Agency may also require the manufacturers to alter the normal placement interval of certain emissions-related components in the future in order to be consistent with reasonable industry practice, taking into account the cost of doing so and the availability of technology, as well as the potential impact on emissions. The Agency is considering the need to develop separate regulations in the future to clarify more fully its maintenance instruction policy, but will attempt

to resolve those maintenance instruction issues most directly related to the section 207(a) warranty in this section 207(a) rulemaking process.

IV. SECTION 207(A) STRATEGY OPTIONS

The purpose of this section is to outline several strategy options which the Agency could pursue with regard to the section 207(a) warranty. The three major options outlined here are intended to represent distinct strategies for the purposes of discussion and analysis. In reality, of course, a continuum of options is available. This continuum is indicated by the discussion of the various suboptions available within each major option, and by an outline at the end of this section of additional elements which the Agency believes should be considered as part of the overall program.

A. OPTION 1—CONTINUE PRESENT COURSE OF ACTION

Under this option the Agency would continue its present low level of activity under section 207(a). This consists of reviewing owner's manuals to ensure; That section 207(a) warranty statements are included, that these statements do not differ in substance from the statutory language, that the section 207(a) warranty is not conditioned on proper maintenance and use, and that flagrantly anticompetitive language is not used.

Use of this option would also mean that the Agency would not require that consumers be provided with a listing of components that constitute the emission control system or a listing of failures covered by the warranty. The Agency would oppose any listing by the manufacturer which attempted to narrowly define the scope of coverage of the warranty but would permit listings which were clearly for purposes of illustration of potential coverage and not for the purpose of limitation of coverage.

Under this option, in contested cases, the consumer would have to establish that a particular failure resulted in emissions exceeding Federal standards. The manufacturer could then attempt to demonstrate that a failure was not attributable to the design or manufacturing process, but rather was attributable to improper maintenance or use. Should the consumer be dissatisfied with the manufacturer's refusal to honor a claim, he or she would be forced to resort to the courts for formal resolution, or to pursue the matter informally (through consumer agencies for example).

B. OPTION 2—DEFINE THE COMPONENTS COVERED (LIST OF EMISSIONS-RELATED COMPONENTS)

The basic thrust of this option would be for the Agency to define, presumably through rulemaking, those parts, components, and systems of vehicles and engines which are clearly covered by the section 207(a) warranty. Under this option, a consumer could still bring a claim for any item, but it is expected that most claims would be for listed items. As with Option 1, this option would require the consumer to establish that a particular failure (of a listed component) resulted in emissions exceeding Federal standards, should the manufacturer contest this point. Since emissions testing might be required, this could prove very difficult for consumers. The manufacturer could still escape liability if he could demonstrate that a failure was not attributable to the design or manufacturing process, but rather was attributable to improper maintenance or use for which he was not responsible.

As under Option 1, consumers might have to resort to the courts to formally resolve disputes with the manufacturer. However, it is likely that the manufacturers would be more receptive to claims for components on a listing developed through rulemaking, and that the courts would give some weight to this list. EPA would also focus on the listed items to provide assistance on consumer inquiries regarding disputed claims.

Under this option, the Agency would review the owner's manuals, as under Option 1, to ensure: That the warranty language was included and was consistent with the statutory language, that the warranty was not conditioned on proper maintenance and use, and that flagrantly anticompetitive language was not used. Owner's manuals would also be reviewed to ensure that the list of emissions-related components was properly included. Alternatively, the Agency could require that the list be available to dealers, but not that it be necessarily included in the owner's manual.

Appendix I contains a possible list of emission-related components. Appendix I is broad as it is intended to present a starting point to which comments to this notice can be addressed with specificity. The list could either be reduced or expanded depending on comments received, and on increasing knowledge regarding the importance of individual components to emission performance. Should this option be pursued as the major section 207 (a) strategy, a final list would focus on those components which are most critical to emission performance and most likely to prove defective.

C. OPTION 3—DEFINE THE FAILURES PRESUMED TO BE DEFECTS COVERED BY THE WARRANTY (DEFECT LIST)

The basic thrust of this option would be for the Agency to define those failure modes (and symptoms, to the extent possible) which are presumed to be defects which result in emissions exceeding Federal standards. Such a defects list could be developed from the list of emissions-related components of Option 2 with the focus on those components which are most likely to be defective and, when they are defective, which have the greatest impact on emissions performance.

The principal difference between this option and Option 2 is that under this option the consumer would not have the full burden of establishing that a particular failure (of a listed component) causes emissions to exceed Federal standards. The Agency would use the rulemaking process in an effort to reach agreement linking listed failures to high emissions. However, under this option it could be provided that the manufacturer be allowed to demonstrate that a particular failure did not result in emissions exceeding standards. This would seem necessary since inclusion of an item on the defects list would not generally be based on certainty but rather on probability that the particular failure would result in emissions exceeding Federal standards.

As under Options 1 and 2, the manufacturer would be able to avoid liability for a particular failure if he could demonstrate that it resulted from improper maintenance or use for which he was not responsible.

Should consumers be forced to resort to the courts to formally resolve disputes, the courts could be expected to give considerable weight to items on the defects list regarding the issue of whether Federal standards were exceeded, as long as a failure actually existed as described in the list. As mentioned above, EPA would also focus close attention on listed failures.

Under this option, in addition to reviewing the owner's manuals in the same manner as under Options 1 and 2, the Agency would confirm that the defects list was properly included.

Appendix II is a possible defects list. As with Appendix I, the list is broad and represents a continuum of options as it is intended to present a starting point to which specific comments can be addressed. Should this option be pursued, it might prove necessary and desirable to limit a finalized defects list to only a few items, i.e., those items which are clearly linked to high emissions, have a significant probability of being defective, and can be identified by consumers as being defective.

D. ADDITIONAL ELEMENTS FOR CONSIDERATION

In addition to the options outlined above, other possible elements of the program which the Agency believes should be considered include:

1. *Reporting provisions.* These provisions would require the manufacturer to periodically provide the Agency with copies of the section 207(a) warranty statements and related language which they provide to consumers, zone representative, and dealers. This would formalize the Agency's presently disparate methods of obtaining this information.

Perhaps of greater significance would be a provision which would require the manufacturers to provide the Agency with periodic reports of claims honored and claims not honored under the section 207(a) warranty. This would allow the Agency to monitor the section 207(a) warranty much more effectively than can now be done. Such a provision might, however, require the manufacturers to modify their present systems for monitoring warranty claims. For example, it could presumably require some method of distinguishing section 207(a) claims from other warranty claims. Also, it is not known to what extent manufacturers

are presently able to monitor warranty claims which are rejected.

2. *Log-book format for maintenance instructions.* With any option under consideration, manufacturers may refuse to honor warranty claims if they can demonstrate that a failure results from improper maintenance or use for which they are not responsible. To encourage consumers to better maintain their vehicles and to assist them in resolving disputes that arise, a provision should be considered requiring maintenance instructions for emissions-related maintenance to be printed in a logbook format. The consumer would then be provided a place to indicate what was done, when, and by whom.

3. *Notice to consumer for failure to honor a section 207(a) claim.* A possible provision to encourage manufacturers to act expeditiously under the section 207 (a) warranty is to require that the warranty issued by manufacturers pursuant to section 207(a) include a provision that the manufacturer notify the consumer within a certain number of days of his intention not to honor a section 207(a) claim and to briefly indicate the reasons for refusing to do so.

4. *Retroactive application.* Since the section 207(a) warranty applies to all 1972 and later model year vehicles and engines to which emissions standards apply, it would appear that any Agency policy differentiating between future and past model year vehicles and engines must be based on sound technical, policy, and legal rationale. Furthermore, although the Agency might require that future owner's manuals include information to implement the strategy selected, it is less likely that the Agency would require modifications to manuals already distributed. Persons recommending that application of any policy adopted be limited to future model years should fully indicate their rationale for so recommending.

5. *Other strategies.* Commenters are encouraged to recommend other strategies—major or minor—to make section 207(a) function effectively. Commenters are requested to furnish factual data to support these recommendations where such data is available.

V. Costs and Economic Impact

In order for the Agency to estimate the costs and benefits of the various section 207(a) options and strategies outlined above, as well as of other strategies which may be recommended, comments are desired which address the following issues:

1. Actual costs to the manufacturer up to the present time, stemming from the section 207(a) warranty. For each model year commencing with 1972, the number of claims for each item listed in Appendix II (the "Defects List"), the average cost per claim, and the average mileage, are requested. Also desired is the number of claims made under the section 207(a) warranty but not honored by the manufacturers, for each model year since 1972. The increased costs to consumers (vehicle buyers) of the section 207(a) warranty should be provided, for each model year since 1972.

2. Costs to the manufacturer, both direct and indirect, of remedying each of the items included in the "Defects List" (Appendix II). Costs should include both parts and labor for replacement or repair of the items or systems, dealer charges or profits, any profit to the manufacturer, and all overhead or allocated indirect costs for each item on the "Defects List." Information submitted should include all assumptions concerning economics, expected volume of replacement or repair, time frame of each type of replacement or repair, and potential effect on productivity.

3. All administrative, overhead or other indirect costs to the manufacturer, of implementing and complying with the section 207(a) warranty options and strategies outlined.

4. Incremental inventory and working capital costs to operate a section 207(a) warranty program under the various options and strategies, listing costs associated with each item listed in the "Defects List" (Appendix II).

5. Projected or estimated failure rates for each item or system in the "Defects List" (Appendix II) over the first 5 years or 50,000 miles, presented as failures per 1,000 miles, failures per 100 cars, or mean time between failures (MTBF), for each model year.

6. Quantified effect on exhaust or evaporative emissions of failure of each item or system in Appendix II. Engineering estimates of emissions impact are requested if data is not available.

7. Individual and aggregate effect by model line, on new car prices, of warranting each item or system in the Appendix II "Defects List" as well as the total group of items and systems. Also, estimates of the effect on used car prices of an effective warranty, on model years since 1972.

VI. Additional Issues

A. *Anticompetitive issues.*—Since enactment of the Act's warranty provisions, EPA has taken the position that vehicle manufacturers must not use the Clean Air Act to gain an unfair competitive advantage in the automotive aftermarket (i.e., the manufacturers of, suppliers of, and service facilities for, non-original-equipment replacement parts for in-use vehicles and engines). Language in owner's manuals which states or implies that the use of aftermarket parts or non-dealer service may jeopardize warranty or recall protection afforded by the Act tends, in the Agency's view, to inhibit competition in the automotive industry in possible violation of antitrust laws, and to decrease the industry's overall capability to provide readily available service on emissions control systems. This type of language should not be allowed unless the vehicle manufacturer is prepared to demonstrate in individual cases that only manufacturer-supplied parts or dealer service is adequate. The Federal Trade Commission, under the authority of the Magnuson-Moss Warranty Act (Pub. L. 93-637), will decide whether a vehicle manufacturer with this policy has made sufficient demonstration of inadequacy of all pertinent aftermarket parts and service, for his vehicles. The Agency has required manufacturers to modify language which is clearly anticompetitive and may continue to do so when appropriate. Advice has also been sought from the Federal Trade Commission and the Anti-Trust Division of the Department of Justice in ascertaining the boundary between acceptable and unacceptable language.

Although the Agency does not believe that an effective section 207(a) program will have a major impact on the aftermarket, steps are being taken to minimize any adverse impact from the section 207(a) program and other in-use compliance programs. In the Federal Register of November 14, 1974 (39 FR 40192), the Agency announced its preliminary endorsement of an industry-led program for the voluntary self-certification of certain emissions-related aftermarket parts. This program would: (1) Attempt to identify those parts or components which are critical to vehicle emissions performance; (2) develop standards or guidelines for such parts; and (3) publish these standards so that aftermarket manufacturers can design and build parts which are fully interchangeable with original equipment as far as the Clean Air Act is concerned. This program is intended to preserve competition in the automotive industry. It may also provide information useful to more fully clarify the applicability of the section 207(a) warranty provisions.

B. *Remedy under the warranty.*—An important issue raised by section 207(a) is the extent of a manufacturer's liability under the warranty. At a minimum, the Agency believes that section 207(a) requires manufacturers to remedy a nonconformity caused by a defect. Thus, remedial action under section 207(a) may require not only replacement of an originally defective component, but also replacement, at the manufacturer's expense, of items not originally defective but damaged by a defective component. In short, the manufacturers must take whatever action is required to bring the vehicle back into compliance with standards. Liability for such emission-related damages cannot be disclaimed.

C. *Defects reporting.*—Other EPA regulations related to Section 207(a) are those which call for the reporting of defects. These were proposed on April 26, 1975 (40 FR 18176), and are presently near completion and final promulgation. Information provided in response to the defects reporting regulations could be used in both the Section 207 (a) program and the Agency's recall program. If the Agency were to learn from this information that a substantial number of vehicles or engines in a class or category were defective, the vehicles or engines could be both subject to recall and subject to the Section 207(a) warranty. If an emissions-related defect exists, but the addi-

tional requirements of the Section 207 (c) recall provisions are not satisfied, Section 207(a) could provide the necessary consumer protection. The Agency could take steps to inform owners of vehicles containing defects reported under the defects reporting regulations, that they are entitled to have the defect remedied under the § 207(a) warranty when the defect results in a failure to meet emission standards.

D. *Enforcement.*—A vehicle manufacturer who failed to comply with regulations governing the issuance of the Section 207(a) warranty would be subject to a civil penalty of not more than $10,000 per violation, or injunctive action where appropriate. These remedies are provided by sections 203(a)(4), 204, and 205 of the Clean Air Act.

VII. Comments

Comments are solicited on all aspects of the strategies outlined in this notice. Comments should be sent to: Mobile Source Enforcement Division (EN-340), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. They should reach the Agency no later than on or before January 17, 1977.

(Sec. 207(a), 208 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 1857f-5a, 1857f-6, 1857g(a)).)

Dated: November 3, 1976.

John Quarles,
Acting Administrator.

Appendix I—Emissions-Related Components List

Parts, components, and systems which may in certain failure modes cause Federal standards to be exceeded include the items listed below.

I. CARBURETION AND AIR INDUCTION SYSTEM

A. Pre-Heated Air Intake:
1. Bimetallic temperature sensor
2. Vacuum motor for air control
3. Hot air duct
4. Air filter element

B. Emissions Calibrated Carburetors:
1. Metering jets
2. Metering rods
3. Needle and seat
4. Power valve
5. Float circuit
6. Vacuum break
7. Choke mechanism
8. Throttle control solenoid
9. Deceleration valve
10. Dashpot
11. Idle stop solenoid, anti-dieseling assembly
12. Accelerating pump
13. Altitude compensator

C. Mechanical Fuel Injection:
1. Fuel pump
2. Fuel filter
3. Pressure regulator
4. Fuel injection pump
5. Fuel injectors
6. Throttle-position compensator
7. Engine speed compensator
8. Engine tempertature compensator
9. Altitude cut-off valve
10. Deceleration cut-off valve
11. Cold-start valve

D. Continuous Fuel Injection:
1. Fuel pump
2. Pressure accumulator
3. Fuel filter
4. Fuel distributor
5. Fuel injectors
6. Air flow sensor
7. Throttle-position compensator
8. Warm-running compensator
9. Pneumatic overrun compensator
10. Cold-start valve

E. Electronic Fuel Injection:
1. Fuel pump
2. Fuel filter.
3. Pressure regulator
4. Fuel distribution manifold
5. Fuel injectors
6. Electronic control unit
7. Engine speed sensor
8. Engine temperature sensor
9. Throttle-position sensor
10. Altitude/manifold-pressure sensor
11. Cold-start valve

F. Intake Manifold:

II. IGNITION SYSTEM

A. Distributor:
1. Shaft
2. Points
3. Rotor
4. Condenser
5. Distributor cap
6. Breaker plate
7. Electronic components (breakerless or electronic system)

B. Spark Advance/Retard Systems:
Centrifugal advance mechanism:
a. Weights
b. Springs
2. Dual-diaphragm vacuum advance unit
3. Transmission controlled spark system:
a. Vacuum solenoid
b. Transmission switch
c. Temperature switches
d. Time delay
e. CEC valve
f. Reversing relay
4. Electronic spark control systems:
a. Computer circuitry
b. Speed sensor switch
c. Temperature switches
d. Vacuum switching valve
e. Speedometer cable
5. Orifice spark advance control system:
a. Vacuum by-pass valve
b. OSAC valve
c. Temperature control switch
d. Distributor vacuum control valve
6. Speed controlled spark system:
a. Vacuum solenoid
b. Speed control switch
c. Thermal vacuum switch
d. Speedometer cable

C. Spark Plugs
D. Ignition Coil
E. Ignition Fires

III. MECHANICAL COMPONENTS

A. Valve Train:
1. Intake valve
2. Exhaust valve
3. Valve guide
4. Valve springs
5. Valve seats
6. Camshaft
7. Pushrods
8. Rocker arms
9. Crankshaft
10. Camshaft/crankshaft sprockets
11. Valve rotators

B. Combustion Chamber:
1. Piston rings
2. Cylinder head
3. Head gaskets
4. Cylinder block
5. Rotary housing [1]
6. Rotary side housing [1]
7. Rotary apex seals [1]
8. Rotary side housing seals [1]
9. Piston
10. Rotor [1]

IV. EVAPORATIVE CONTROL SYSTEM

A. Vapor Storage Canister and Filter
B. Vapor Liquid Separator
C. Filler Cap
D. Fuel Tank

V. POSITIVE CRANKCASE VENTILATION SYSTEM

A. PCV Valve
B. Oil Filler Cap
C. Manifold Breather Assembly
D. Flame Arrestor
E. Air Filter

VI. EXHAUST GAS RECIRCULATION SYSTEM

A. EGR Valve:
1. Carburetor spacer
2. Internal passages and exhaust gas orifices

B. Driving Mode Sensors:
1. Speed sensors
2. Solenoid vacuum valve
3. Electronic amplifier
4. Temperature-controlled vacuum valve
5. Vacuum reducing valve
6. EGR coolant override valve

VII. AIR INJECTION SYSTEM

A. Air Supply Assembly:
1. Pump
2. Centrifugal filtering fan
3. Pressure relief valve
4. Pressure-setting plug

B. Distribution Assembly:
1. Diverter, relief, bypass, or gulp valve
2. Check or anti-backfire valve
3. Mixture control value
4. Flow control valve
5. Distribution manifold

VIII. CATALYTIC AND THERMAL REACTOR SYSTEMS

A. Catalytic Converter:
1. Constricted fuel filler neck
2. Platinum beads (pellet type converter)
3. Ceramic support and monolith coating (monolith type converter)
4. Outer steel shell
5. Inner supporting shell
6. Exhaust manifold

B. Thermal Reactor:
1. Reactor casing
2. Exhaust manifold

IX. MISCELLANEOUS ITEMS USED IN ABOVE SYSTEMS

1. Hoses, clamps, and pipes
2. Gaskets and seals
3. Pulleys, belts, and idlers
4. Electrical connections

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[1] Rotary (wankel) engines only.

APPENDIX II—Defects list, defects which may be presumed to cause Federal standards to be exceeded include those listed below

Part	Defect or failure modes	Symptoms
Carburetor		
1. Choke mechanism	Stuck closed	Hard starting, driveability.
2. Deceleration valve	Stuck closed, disconnected	Backfire.
3. Anti-dieseling assembly	Calibration, solenoid	Low idle RPM.
4. Dashpot	Malfunction	Low idle RPM, excessively slow throttle deceleration.
5. Metering jets and rods	Wrong size, rapid deterioration	Driveability, fuel economy.
6. Power valve	Sticking, rupture	Do.
7. Needle and seat	Improper seating	High fuel consumption, driveability.
Mechanical Fuel Injection		
8. Fuel distribution lines	Rupture, improper fit	Driveability, fuel economy, leaks.
9. Injectors	Rapid deterioration, improper casting.	Driveability, fuel economy.
10. Pressure regulator	Rapid deterioration	Driveability, fuel economy, smoke (diesel).
11. Fuel injection pump	do	Driveability, fuel economy.
12. Starting valve (air and fuel)	do	Fuel consumption, black smoke when starting, hard starting.
13. Injection pump and throttle valve synchronization mechanism.	Improper synchronization	Driveability, fuel economy.
Electronic Fuel Injection		
14. Fuel distributor	Rupture, improper fit	Do.
15. Injectors	Rapid deterioration, faulty manufacturing.	Do.
16. Pressure regulator	Rapid deterioration	Do.
17. Throttle valve switch	do	Do.
18. Electronic control unit	do	Do
19. Temperature sensor	do	Do.
20. Starting valve (fuel and air)	do	Fuel consumption, black smoke when starting, hard starting.
Continuous Fuel Injection		
21. Fuel distributor	Rupture, rapid deterioration	Driveability, fuel economy.
22. Injectors	Rapid deterioration, faulty manufacturing.	Do.
23. Pressure accumulator	Rapid deterioration	Do.
24. Starting valve	do	Fuel consumption, black smoke when starting, hard starting.
25. Air flow sensor	Stuck, improper fit	Driveability, fuel economy.
26. Throttle-position compensator	Rapid deterioration	Do.
Valve Train		
27. Intake valve	do	Driveability, backfire noise.
28. Exhaust valve	Broken, rapid deterioration, leaking.	Driveability, noise, fuel economy.
29. Valve guide	Leaking, rapid deterioration	Oil consumption.
30. Valve springs	Weak, broken	Fuel, economy, driveability.
31. Valve seats	Improperly formed, rapid deterioration.	Noise, driveability, fuel economy.
32. Crankshaft to camshaft synchronization mechanism.	Rapid deterioration	Driveability.
33. Valve stem seals	Rapid deterioration, improper fit	Oil consumption.
Combustion Region		
34. Piston ring	Cracked, rapid deterioration	Driveability, excessive smoke, fuel economy, oil consumption.
35. Cylinder head	Cracked, faulty manufacturing	Loss of coolant, oil in coolant, driveability.
36. Cylinder head gasket	Improperly seated, split	Driveability.
37. Cylinder block	Faulty manufacturing, cracked, warped.	Loss of coolant, oil in coolant.
38. Rotor housing [1]	Faulty manufacturing, cracked, warped.	Loss of coolant, oil in coolant, driveability.
39. Rotor side housing [1]	do	Do.
40. Rotor apex seals [1]	Rapid deterioration, improper seating.	Fuel economy, driveability and hard starting.
41. Rotor side housing seals [1]	do	Do.
42. Exhaust manifold and pipe catalytic converter.	do	Noise.
43. Thermal reactor	Rapid deterioration, leaks	Do.
44. Catalyst	Melted, physical loss of catalytic material.	No change in temperature of exhaust gases entering and exiting from catalyst.
45. Evaporative emission	Improper fit, missing, rapid deterioration.	Visual inspection, fumes.
46. PCV system	PCV valve stuck closed, lines improperly fitted or missing, rapid deterioration.	Visual inspection, driveability, fuel economy, oil leaks.
47. EGR system	Valve stuck closed, lines improperly fitted or missing, rapid deterioration.	Visual inspection, driveability, fuel economy.
Ignition System		
48. High voltage leads	Rapid deterioration, broken	Misfire.

[1] Rotary (wankel) engines only.

Part	Defect or failure modes	Symptoms
49. Coil	Premature winding separation	Misfire.
50. Distributor, including spark advance/retard mechanism.	Electrical deterioration, mechanical and/or vacuum advance/retard mechanism deterioration.	Driveability, fuel economy.
51. Spark plugs	Rapid deterioration defective construction.	Driveability, misfire.
52. Points, condensor	do	Do.
53. Pulse generator and amplifier (electronic ignition).	do	Do.
54. Rotor and rotor cap	do	Do.
55. Distributor point cam	do	Do.
56. Fuel tank	Rapid deterioration, leaks due to defective construction.	Fuel, economy fumes.
57. Fuel system vapor-liquid separator	Lines improperly fit, leaks	Fumes.
58. Fuel tank lines	do	Fumes, fuel economy.
59. Air injection system	Valves defective, lines improperly fitted, air pump inoperative, rapid deterioration.	Noise, visual inspection.
60. Intake air preheating system	Servo-motor failure, vacuum line deterioration, temperature sensor failure, heat ducting deterioration.	Driveability at low temperatures.
Deisel Engines		
61. Turbocharger	Restricted or seized	Smoke, performance.
62. Blower (2 cycle)	Leaks	Smoke, performance oil consumption.
63. Cylinder liner ports	Cracked, clogged	Smoke, oil consumption.
64. Injector rack control	Improper setting	Smoke, performance.
65. Governor	Improper setting, broken springs	Do.
66. Turbocharger air by-pass	Leaks	Do.
67. Injectors	Rapid deterioration	Smoke, performance, fuel economy.

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